

## ABSTRACT

A computer-assisted method for localizing a rack, including sensing an image of the rack, detecting line segments in the sensed image, recognizing a candidate arrangement of line segments in the sensed image indicative of a predetermined feature of the rack, generating a matrix of correspondence between the candidate arrangement of line segments and an expected position and orientation of the predetermined feature of the rack, and estimating a position and orientation of the rack based on the matrix of correspondence.

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Image Processing System